Mission Trails Regional Park
8.1.6

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8.1.6.a *Mission Trails Regional Park (Q 2)*

Site Description and Existing Conditions

Mission Trails Regional Park (Q 2) is a 5,700-acre open space park owned and managed by the City of San Diego Park and Recreation Department. The park is located south of SR 52 and west of Santee, and is conserved, designated open space within the MHPA in the Active Parks land use zone. Surrounding land uses include transportation, commercial and residential.

Fourteen vernal pools (353 m^2 [3799.660 ft^2] in total area) and an ephemeral wetland were mapped at Mission Trails. The basins are natural, although some have been impacted by human activities prior to the establishment of the park. Soils include Redding gravelly loam, and upland vegetation is characterized by coastal sage scrub, southern mixed chaparral and non-native grasslands. *B. sandiegonensis* utilizes the vernal pool habitat at Mission Trails Regional Park; no additional sensitive plant species have been reported.

Prior to preservation, some impacts occurred due to military training and other activities. The park is utilized for passive recreation, and official trails now limit impacts to natural resources. The Park and Recreation Department has recently begun work on a natural resources management plan for Mission Trail Regional Park that will provide management guidelines and objectives for this preserve.

Threats

Invasive Species

Vegetation species at Mission Trails Regional Park are primarily native; however, some non-native grasses and *Lythrum hyssopifolium* occur.

Trespass

The public is allowed limited, non-motorized access to Mission Trails Regional Park. Fences have been installed to direct access where official trails are adjacent to vernal pool basins, and patrols enforce appropriate use of the park.

Fire/Fire Suppression

Mission Trails Regional Park is part of several large, inter-connected open space areas where fire is an important part in the natural ecologic regime. Fires occurred in portions of Mission Trails during the 1990s and in October 2003, when all fourteen vernal pool basins were burned. The basins were surveyed in March of 2003 and 2004 to assess pre- and post-fire ecosystem health. Following rains in 2004, both the hydrologic and species components of the vernal pools appeared to be functioning appropriately (see *Summary of Monitoring Results for Post Fire Evaluation of Vernal Pools* [City of San Diego, 2004]). Fire does not appear to threaten the species presence or abundance of vernal pool ecosystems.

It is unlikely that fire suppression activities would take place near the vernal pools due to their relatively remote location.

Current Management Activities

The site is managed by rangers and other staff of the Park and Recreation Department. Management activities include installation and maintenance of trails and barriers, and enforcement of park regulations.

The vernal pools at Mission Trails Regional Park were surveyed following the 2003 wildfires.

Management Recommendations

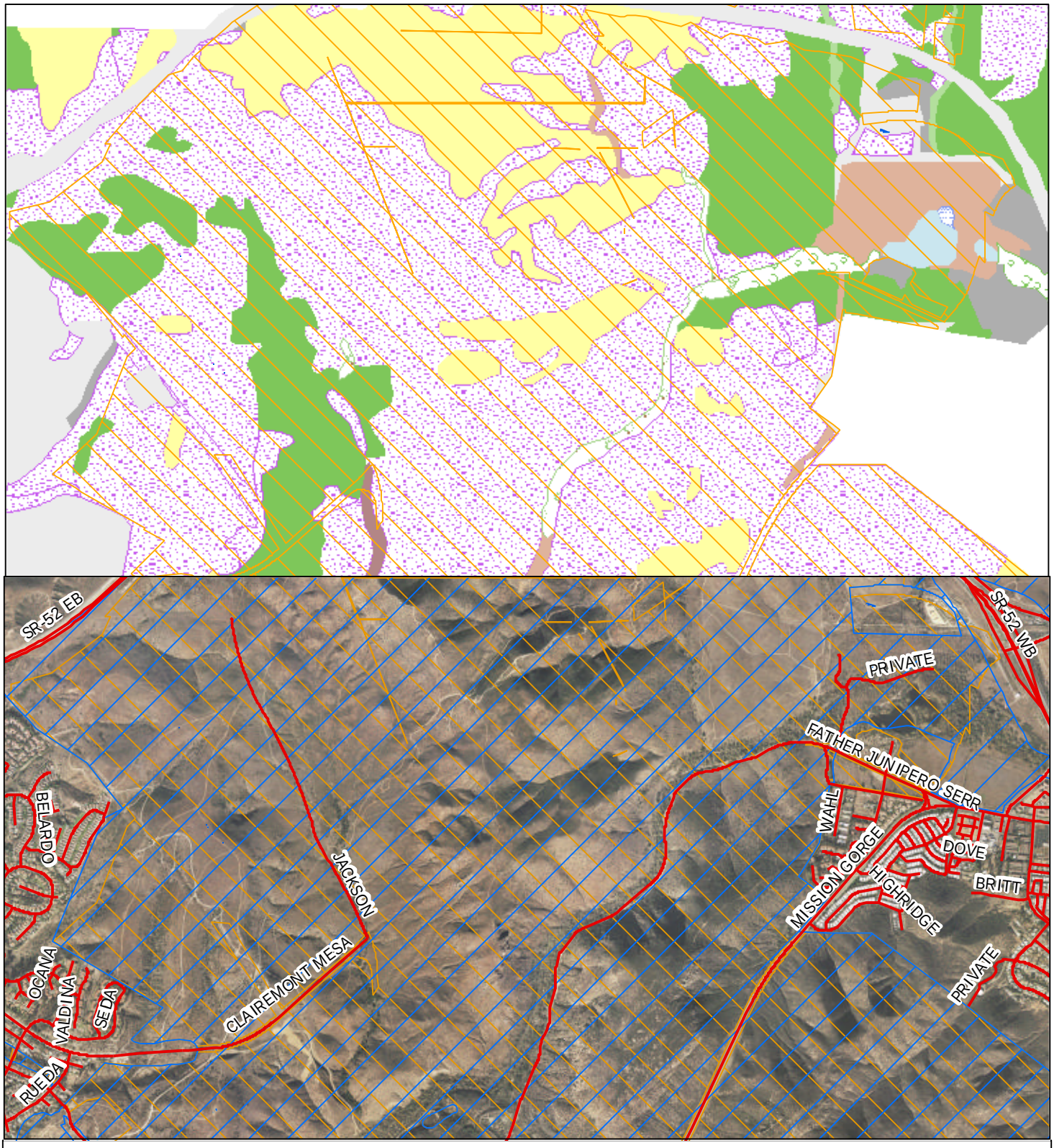
Seek funding for vernal pool restoration projects, including invasive species removal and basin re-contouring where appropriate.

Re-introduction of *E. aristulatum* may be beneficial if there are appropriate soil types and the establishment of a metapopulation at this site would increase chances of over-all species recovery and survival. *E. aristulatum* is found at the adjacent Mission Trails School District site but has not been recorded at Mission Trails Regional Park.

Restoration and reintroduction efforts shall utilize seeds from within the smallest possible geographic range, in the following order, as necessary: complex, series, geographic region (i.e. Otay Mesa).

Interpretive signs should be installed to increase public awareness of vernal pools. Educational nature hikes including the vernal pool areas would provide an excellent opportunity for public outreach.

Figure 33



Mission Trails Regional Park (Q 2)

Roads
MHPA
Conserved Lands
Vernal Pools at Site
Adjacent Vernal Pools
Coastal Sage Scrub
Chaparral
Grassland
Freshwater Marsh
Riparian Forest
Oak Riparian Forest
Riparian Woodland
Riparian Scrub
Oak Woodland
Eucalyptus Woodland
Open Water
Disturbed Land
Urban/Developed
No Data

0.5
Miles
1
Kilometers

Note: MHPA and Roads not shown in top map; vegetation mapping per Ogden 1997.

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8.1.6.b *Mission Trails School District Site (Q 2)*

Site Description and Existing Conditions

The Mission Trails School District Site (Q 2) is a 11.73-acre site located north of the intersection of Calle de Vida and Calamar Drive in Tierrasanta. The site is owned by the San Diego Unified School District, is within the MHPA and is zoned for Elementary Schools. Surrounding land uses include transportation, residential and open space.

Two vernal pools (69.7 m^2 [750.245 ft^2]) were mapped in 2003. The basins appear to be natural, although there are also impacts from historic military activities and on-going BMX and foot traffic. The site is mapped with Redding gravelly loam soils and the upland vegetation is characterized by disturbed coastal sage scrub and ruderal vegetation. *E. aristulatum* was present in 2005, but surveys have not been conducted for fairy shrimp.

Threats

Development

The site is not conserved and may be developed.

Invasive Species

Upland vegetation is predominately black mustard and non-native grasses.

Trespass

The site is fenced; however, non-motorized public access occurs at Mission Trails Regional Park which is adjacent to this site.

Fire/Fire Suppression

This site is adjacent to Mission Trails Regional Park, which is part of several large, inter-connected open space areas where fire is an important part of the natural ecologic regime. Fires occurred in portions of Mission Trails during the 1990s and in October 2003, when all fourteen vernal pool basins were burned. The basins were surveyed in March of 2003 and 2004 to assess pre- and post-fire ecosystem health. Following rains in 2004, both the hydrologic and species components of the vernal pools appeared to be functioning appropriately (see *Summary of Monitoring Results for Post Fire Evaluation of Vernal Pools* [City of San Diego, 2004]). Fire does not appear to threaten the species presence or abundance of vernal pool ecosystems.

The site may be impacted due to fire suppression activities if used as a staging area due to its location between open space and residential neighborhoods.

Current Management Activities

No management activities are planned or on-going.

Management Recommendations

Due to the presence of vernal pools, this site is recommended for conservation through public acquisition or private mitigation. The site is located adjacent to large MHPA open space areas and is within 0.5 km of other vernal pools. However, development is not precluded; if all or portions of the site are conserved through acquisition or on-site mitigation for development, the following recommendations shall be implemented.

Restoration and/or enhancement should be considered if conservation occurs independently of an associated development project.

Restoration and reintroduction efforts shall utilize seeds from within the smallest possible geographic range, in the following order, as necessary: complex, series, geographic region (i.e. Otay Mesa).

If impacts to vernal pools are approved, the mitigation shall include vernal pool restoration should occur as part of the preservation of on-site resources. In order to ensure long-term success, the mitigation shall include invasive species removal, fencing and signage, litter removal, monitoring and a fire management plan. It is recommended that an endowment be set aside for the management of the site in perpetuity.

If an on-site vernal pool preserve is required as mitigation for future project(s), the area shall be within or adjacent to the MHPA and of sufficient size and shape to protect both vernal pool basins and all associated watersheds. The site is currently connected to Mission Trails Regional Park by undeveloped land within the MHPA, and preserve design shall occur in a manner to maximize the connectivity between vernal pools, surrounding open space, and nearby vernal pool complexes.

Fencing shall be installed to preclude access while maintaining connectivity to adjacent open space areas with lower risk of trespass. Appropriate signage shall be developed with both educational and no-trespassing elements.

A qualified biologist shall assess the site for non-native, invasive species, and shall recommend and implement a removal plan, if necessary. Weeding within and immediately adjacent to vernal pools should be done by hand. In upland areas, mechanical removal may be necessary, however, herbicides should not be used in or adjacent to vernal pools.

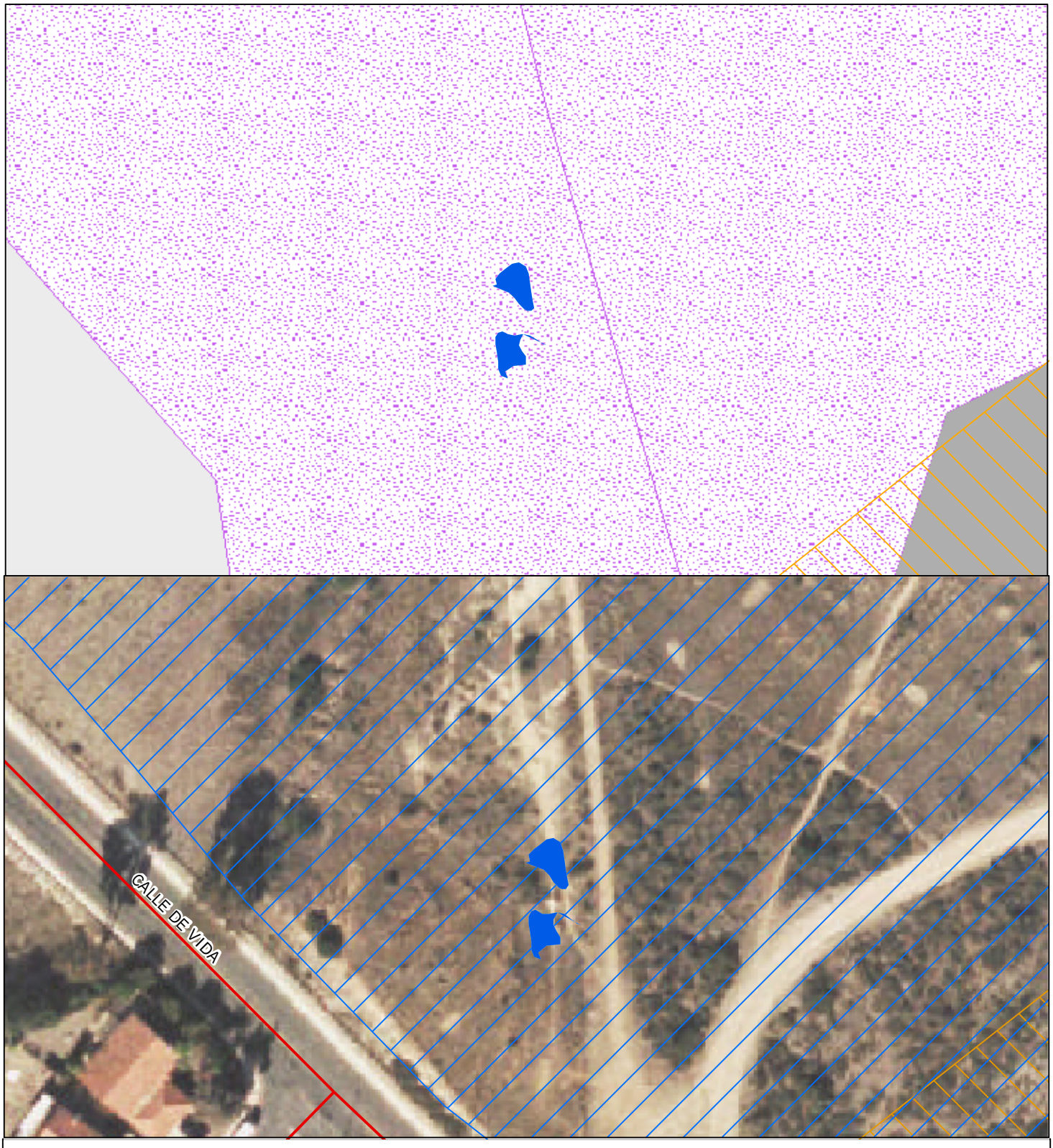
Annual maintenance shall be required to provide fence and sign repair and trash removal, as necessary.

All conserved areas should be rezoned from Elementary Schools to Open Space.

If the site is used for mitigation, a fire management plan shall be prepared and included in the adopted Habitat Management Plan.

Due to the location of the site adjacent to residential neighborhoods, it is recommended that educational programs be provided through local schools, Home-Owner's Associations (HOAs), community groups, etc. Topics may include the local ecosystem, including vernal pools, habitat preservation (i.e. MSCP), and should incorporate hands-on learning via neighborhood hikes, etc. Programs should strive to present information in a manner that will increase interest in the natural world and cultivate local stewardship of open space, with the overall goal of developing positive neighborhood awareness of the preserve.

Figure 34



Mission Trails School District (Q 2)

Roads
MHPA
Conserved Lands
Vernal Pools at Site
Adjacent Vernal Pools
Coastal Sage Scrub
Disturbed Land
Urban/Developed

0.01 Miles
0.03 Kilometers

Note: MHPA and Roads not shown in top map; vegetation mapping per Ogden 1997.

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8.1.6.c *Castle Rock (Q 3)*

Site Description and Existing Conditions

The Castle Rock vernal pool site (Q 3) is located in the East Elliott area, northwest of the intersection of Mast Boulevard and Mona Kai Lane, and north of State Route 52. This privately-owned, 192-acre site is located in the vicinity of Mission Trails Regional Park, and is being proposed for development as the Castlerock project (PTS 10046). The project site is zoned for Residential and Open Space; adjacent land uses include MHPA/open space, residential and transportation.

Eleven vernal pools and road ruts were mapped by Glen Lukos Associates in 2004. The site occurs within the Diablo Olivenhain soil complex. Upland vegetation surrounding the vernal pools includes Diegan coastal sage scrub, and native and non-native grasslands; *B. sandiegonensis* was detected during USFWS protocols surveys in 2004 (Glen Lukos Associates, 2005).

The area has historically been used for passive recreation. Several of the Castle Rock vernal pools are natural in origin, but road ruts have also been created through impacts from off-road vehicles, BMX bikes and pedestrians.

Threats

Development

The Castlerock development project is in the permitting process (PTS 10046). Open spaces lots are being proposed to conserve the vernal pools and their watersheds.

Invasive Species

Non-native species occur in the disturbed and ruderal portions of the Castlerock site.

Edge Effects

The majority of the Castlerock vernal pools will be adjacent to development.

Fire and Fire Suppression

The conserved areas may be impacted if used as staging area during a fire suppression event.

Required Management Activities

No management activities are on-going. Management of any on-site preserves will be required as a condition approval.

Management Recommendations

Due to the presence of vernal pools, this site is recommended for conservation through public acquisition or private mitigation. The site is located adjacent to large MHPA open space areas. However, development is not precluded; if all or portions of the site are conserved through acquisition or on-site mitigation for development, the following recommendations shall be implemented.

If an on-site vernal pool preserve is required as mitigation for future project(s), the area should be within or adjacent to the MHPA and of sufficient size and shape to protect both vernal pool basins and all associated watersheds. The site is currently

connected to Mission Trails Regional Park by undeveloped land within the MHPA, and preserve design shall occur in a manner to maximize the connectivity between vernal pools, surrounding open space, and nearby vernal pool complexes.

Fencing shall be installed to preclude access while maintaining connectivity to adjacent open space areas with lower risk of trespass. Appropriate signage shall be developed with both educational and no-trespassing elements.

Lighting should not be installed within conserved areas and, in adjacent lots, should be shielded to direct spillage away from vernal pool areas.

Grading, development, and landscape irrigation should be completed in a manner to avoid unnatural drainage to vernal pools during and after construction.

A qualified biologist shall assess the site for non-native, invasive species, and shall recommend and implement a removal plan, if necessary. Weeding within and immediately adjacent to vernal pools should be done by hand. In upland areas, mechanical removal may be necessary, however, no herbicides shall be used in or adjacent to vernal pools.

Annual maintenance shall be required to provide fence and sign repair and trash removal, as necessary. It is recommended that an endowment fund be established to fund maintenance activities in perpetuity.

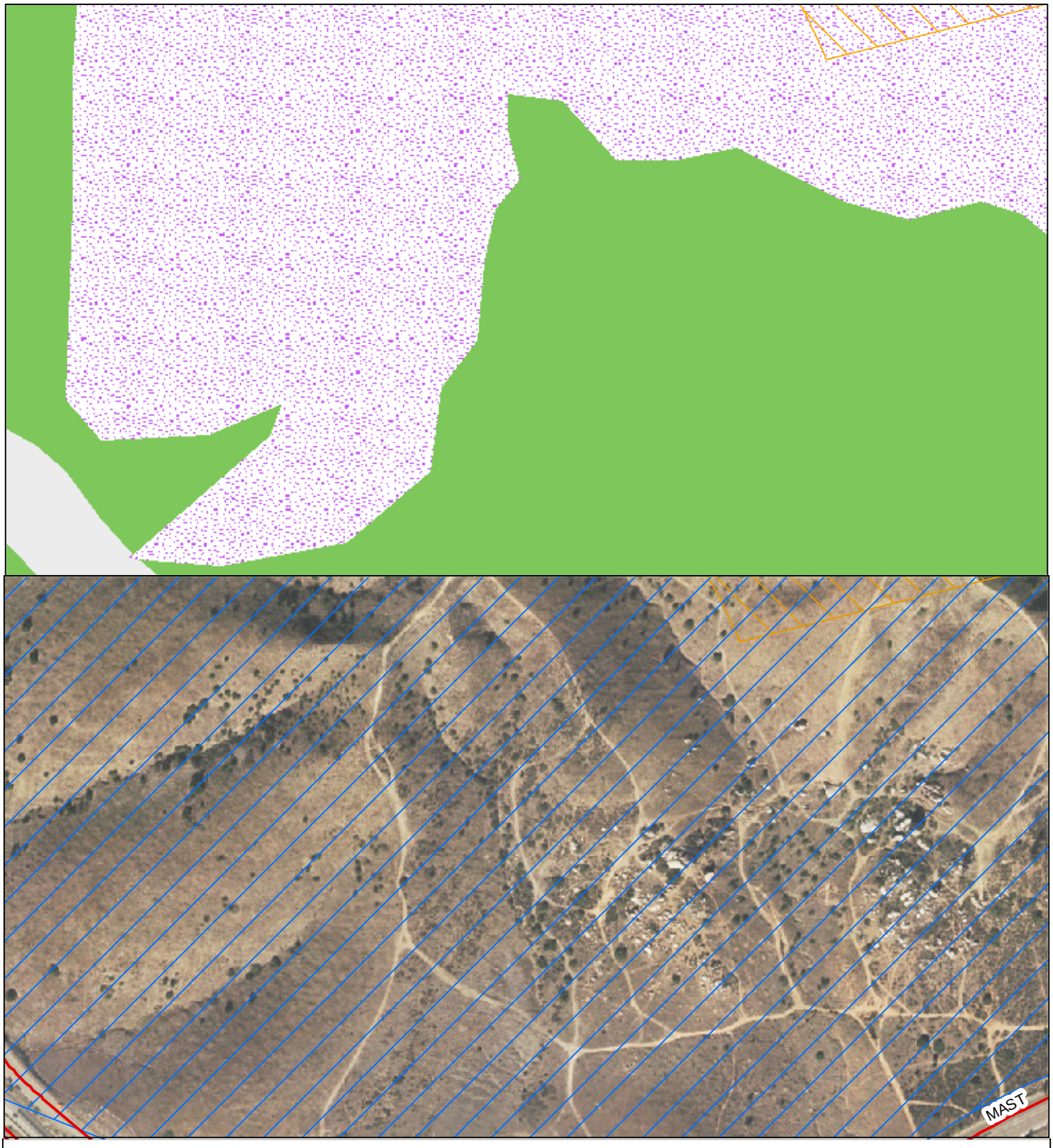
Any areas used for mitigation or otherwise conserved should be rezoned to Open Space. If the site is used for mitigation, a fire management plan shall be prepared and included in the adopted Habitat Management Plan.

Adaptive management shall include management of the site to improve habitat conditions for native, solitary bees known as obligate pollinators for vernal pool species.

It is recommended that educational programs be provided to nearby schools, Home-Owner's Associations (HOAs), community groups, etc. Topics may include the local ecosystem, including vernal pools, habitat preservation (i.e. MSCP), and should incorporate hands-on learning via neighborhood hikes, etc. Programs should strive to present information in a manner that will increase interest in the natural world and cultivate local stewardship of open space, with the overall goal of developing positive neighborhood awareness of the preserve.

The Habitat Manager should encourage research studies, including projects to assess the impact of edge effects and isolation on vernal pool habitats and their associated species.

Figure 35



Castlerock (Q 3)

Roads
MHPA
Conserved Lands
Vernal Pools at Site
Adjacent Vernal Pools
Coastal Sage Scrub
Grassland
Urban/Developed

0.1
Miles
0.2
Kilometers

Note: Vernal pools at this location not GPSed during the 2002-2003 Inventory Surveys.
MHPA and Roads not shown in top map, vegetation mapping per Ogden 1997.

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